1.0
1.1
1.25
1.4
1.6
2.8
2.5
2.2
2.2
2.0
1.8
MICROCOPY RESOLUTION TEST CHART

DOCUMENT RESUME

ED 140 284 CS 203 232

AUTHOR Roth, Audrey J.
TITLE Computer in the Kitchen---or---Being Served by Technology.
PUB DATE Feb 76
NOTE 14p.; Paper presented at the Annual Meeting of the Southeast Conference on English in the Two-Year College (Columbia, South Carolina, February 1976)

EDRS PRICE MF-$0.83 HC-$1.67 Plus Postage.
DESCRIPTORS Community Colleges; Computer Assisted Instruction; Educational Improvement; *Educational Technology; *English Instruction; *Instructional Media; Junior Colleges; *Media Technology; Programed Instruction

ABSTRACT

Hopefully, the time will come when the humanistic users of communications technology will be used to make English teaching better and will help students learn. This paper presents an overview of the technological possibilities for English classrooms, assuming that school systems are not likely to undergo drastic changes in the future and that most of the technology available for the future is now at hand. The paper explores the increased use of television--including cable television, videotape recorders, and computers--and also discusses drawbacks to the use of technological devices, such as the attempt to replace people by self-operated media, the difficulty of diagnosis for individual needs and of diagnosis of learning disabilities, faculty fears and reluctance, and cost. The implications of a growing and sophisticated technology for English teachers are also considered. (JM)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

"PERMISSION TO REPRODUCE THIS COPYRIGHTED MATERIAL HAS BEEN GRANTED BY

Audrey J. Roth

TO ERIC AND ORGANIZATIONS OPERATING UNDER AGREEMENTS WITH THE NATIONAL INSTITUTE OF EDUCATION. FURTHER REPRODUCTION OUTSIDE THE ERIC SYSTEM REQUIRES PERMISSION OF THE COPYRIGHT OWNER."

ED140234

COMPUTER IN THE KITCHEN---or---BEING SERVED BY TECHNOLOGY

Audrey J. Roth
Miami-Dade Community College

Housework and the chores required to keep a household going have never been particularly appealing activities to me. In particular, I resent the tedium of food preparation. Grocery shopping takes too long---and the register tapes these days are unnerving. Then, it's one meal after another, day after day. Making dinner is no way to spend time after a full day at work. Besides, it's eaten up so quickly! And there's nothing to show for all that shopping and cooking except a pile of dirty dishes!

Knowing how I feel about kitchen work, my son---who loves to invent things and looks forward to a future filled with servile mechanisms---informed me one day that he was going to develop a completely automated kitchen for our house. I would be able to push the appropriate buttons and food would appear, ready to be served. Or, at the least, ready to be popped into the microwave oven for warming.

I envisioned a sort of home-sized Horn and Hardardt. But then, I always knew that at the automat real, live people refilled the food behind the little windows and collected all those nickels at the end of the day. David assured me, however, that I wouldn't have to support behind-the-scene elves in order to have this technological wonder.

CS203232

Oh, to have such a classroom as the push-button kitchen David wants to design. One in which each student would be served just what he or she needs for a nutritious learning experience; one in which everything necessary would instantaneously appear to make learning possible; one in which the teacher would be free to orchestrate the entire process, aided by sophisticated technology which, as for the kitchen, already exists but has not yet been put to these specific uses.

Of course you have already guessed my metaphor. I look forward to the time when we will have the kind of technological environment for English students that can make the right courses available simply by pushing a button here or throwing a switch there---and have everything not only instantly available but also instantly learnable! Mind you, I'm not suggesting what has derisively been called a cafeteria style English department. Rather, I'd like to look forward to having instantly available all the right elements for each individual----- whether that person be an aural or a visual learner, imaginative or literal-minded, motivated or apathetic.

I take as my broad definition of instructional technology the one suggested by the Carnegie Commission on Higher Education: the enrichment and improvement of the conditions in which human beings learn and teach as achieved through the creative and systematic organization of resources, physical arrangements, media, and methods. (And I particularly like the word "creative" in there.)

My two starting premises are: 1) that school systems, as we know them, are not likely to undergo drastic changes in the near future, and 2) that we now have at hand most of the technology that will be available for the future. In other words, we will continue to work mostly within a classroom-learning laboratory framework. We already have an imposing array of technologically advanced hardware including, at most colleges, individual audio tape recorders and players, records and record players, and projectors of every description---filmstrip, slide, movie, overhead, and opaque. But there are also three kinds of devices I don't think we're making enough use of now: TV, VTR, and computers. Perhaps they, too, will be included in my mechanized learning environment.

During the academic year, over 40% of the broadcast hours of the country's public TV stations are devoted to instructional programming for in-school use and as far back as 1970 that amounted to over 17,000 hours; certainly it has increased enormously since then. And although I haven't yet found any figures to support my suspicion, I'm sure that much of the increase has come from college level programming. And there is much on commercial TV that is either designed for or used for instruction. I know a number of English teachers who are using the daily soap operas to teach elements of fiction and drama. Others use in-class TV for studies of the language of advertising or news and documentaries for learning to write persuasively. One of these days computers in the classroom are going to be able to store our choices of commerical TV programming for push-button presentation to the right student at the right time.

Tideotape recorders, especially the portable ones, are already being widely used in community colleges. Of course,

English teachers may have to go to the physical education department to get their hands on the equipment, but in many schools it's available to all who know how to use it. English teachers need only to exploit the possibilities of VTR for such simple classroom uses as short dramatic presentations, pre-writing experiences, and second looks at classroom procedures---among other possibilities---to come closer to a technologically sophisticated classroom.

Finally, there are the computers---those big, bad, incomprehensible machines which some teachers already have access to and which will probably become increasingly available both as a teaching tool and as a learning support for teachers themselves. . . . I'd like to come back to computers in a few minutes.

Let me share with you, for a few moments, an "overview" of a sort of technological English program of the future that I've been thinking about---and some of the possibilities, difficulties, and implications that might follow.

The media we seem to be using <u>least</u> right now but which may hold the most promise are television, computers, and satellites. Even though they now offer many possibilities, there will doubtless be changes and improvements on them in the next few years. I am reminded of Andre Malraux's statement that every new invention begins by being constricted by previous inventions and tries to imitate them. Malraux pointed out that early cars looked like carriages and even had sockets for buggy whips on many models---until somebody decided neither was really necessary. Early films were photographed straight on, like someone watching

a stage play until D.W. Griffith moved the camera in for closeups.

Television, including even video cassettes, is too imitative of film right now. Despite some elegant and expensive programs, including a few made by consortia of community colleges, I don't look for anything enormously innovative in the use of television for a while. It's no secret that the promise of TV as a classroom teaching medium, made 10 or 15 years ago, has never been realized. Early TV teaching, either live of kinescopes, was limited primarily to lectures with the camera mostly looking down the gullet of a school's resident ham. The material was simply a classroom lecture in front of students transferred to a studio in front of a camera. Many school-made programs haven't come much further, even though they're codified by performance objectives and mail-in exams. Mostly, we haven't learned from the success of "Sesame Street" and the "Electric Company" which have been used for teaching on commercial TV stations. They are viewed as media projects, directed and controlled by TV people rather than by educators. Production teams use the knowledge and talents of the educators, but handle the projects as television---which doesn't necessarily need to cost more than the reverse way that much educational TV is now being produced.

Videodisks and video cassettes seem to be the next step in classroom television. (Interestingly, the language here has shifted so the words themselves give emphasis to video rather than to television.) I've been hearing for a number of years that both the disks and cassettes are feasible, and now that there has been some agreement on manufacturing standards and systems

perhaps we'll begin to see more happen in this area. Still, I suspect that even when the prices come down to what is affordable for a school, be are going to be caught in the same bind we've been in before: what sort of software do we use with these technological marvels? And, again, we'll undoubtedly go back to what is already available in other media---films, slides, etc---before programming catches up with technological capacity. The challenge is what to put on all those disks and cassettes that will help students learn for English classes!

Cable television holds some interesting possibilities for us because since 1972 there has been an FCC directive that no new cable stations can obtain permits in the 100 largest areas without there being at least three special channels set aside: one for public access (which means a vido channel open to any group or individual that wants to use it), a second channel reserved for municipalities (so that presumably telecasts of city council meetings and other items of local but non-profit interest can be broadcast), and the third an educational channel. But there's a most interesting regulation that goes along with these channels: they must have two-way capabilities. And that's really a mind-boggler! Because, in effect, you can have a kind of call-in educational TV programming or a push-button response. Maybe even other sorts of non-voice responses. And then the walls of the college really expand outward so that students don't even need to be in classrooms to be in touch with teachers. I'll just bet, though, that as soon as things like this begin to happen, some administrator is going to decide we ought to teach freshman composition on that channel!

Several communications satellites launched by the United States are now orbiting around overhead. They've been fine for distracting me the past few weeks by sending such clear pictures of the Olympics. But for education they suggest not so much new and different teaching techniques as they do transmission possibilities, perhaps to consortia of colleges. For instance, video-signal satellites are already broadcasting the same materials to three difficult reception areas: Appalachia, the Rocky Mountains, and Alaska. It's possible that in the future one use of such satellites might be to send (and receive) the proceedings of all the two-year regional conferences as they occur---maybe even if they're scheduled on overlapping dates. Or, think of being able to watch a York conference as it occurs---and with a choice of which simultaneous session you want to tune in on. Or, perhaps we might have satellite signal pickup to illustrate dialects in various areas during the course of a single program.

Computers have always seemed terribly impersonal to me, even though I once played "20 Questions" with one. So it's good to discover <u>some</u> humanists working with computer programs for English that <u>aren't</u> on capitals and comma splices. One of them is Ellen Nold at Stanford. When I went to see her last Fall I was amazed at what she was able to teach me in a short time---especially since I understand nothing at all about computers. She even convinced me that students can accomplish unexpected kinds of learning in CIA (computer assisted instruction) if the proper people write the programs. I recommend to you Ellen's article, "Fear and Trembling: The Humanist Approaches the Computer," in the October, 1975 issue of COLLEGE COMPOSITION

AND COMMUNICATION. In it, she makes a case for exciting, imaginative, people-oriented programs rather than dull drill and practice ones. One of the programs in what Ellen calls the "discover and surprise" mode goes like this:

COMPUTER: Hi. What shall I call you today?

STUDENT: Jim.

COMPUTER: O.K. Jim. This time we're going to talk about what we can and can't see, hear, touch, taste, and feel. You just touched the computer terminal. How does it feel?

STUDENT: Shaky.

COMPUTER: Fine. Now say it again in a different way. It feels like...

STUDENT: a trembling bird

COMPUTER: Good. Even more far out? It feels as if...

STUDENT: it were going to fly away

COMPUTER: Believe it or not, you've just written a poem. Here it is:

shaky
Like a trembling bird
Just as if it were going to fly away

Want to change the poem to make it better?

STUDENT: I think I'd like to.

COMPUTER: Good. Type in your new poem, using the next three lines.

STUDENT: Sometimes my mind
(like a trembling bird)
feels like flying away

COMPUTER: That's the way!

Ellen says that if the student hadn't wanted to revise his work, the computer would have typed, "I thought your poem was o.k., too."

All these are possibilities, some of which are admittedly futuristic and may never come to pass, at least not in ways that will effect most of us. Nevertheless, I don't believe the

classroom teacher is going to be replaced---even though this is one of the fears about technology that many teachers still harbor. Some years ago we began to talk about the teacher as resource, as director of individualized learning capabilities. I think that role will not only continue but will be forced to expand.

Nor am I convinced that any significant measure of learning takes place without human interaction. Put me in a carrel with a machine and I may perform as I have been requested or programmed or coerced to perform, but what have I really learned? What will I retain? More important---will I care? We have had a number of indicators of ways in which technology cannot substitute for people. One of them was at a community college in Michigan, highly touted as being completely "mechanized" in the most sophisticated ways, complete with self-paced learning through several self-operated media. Students stopped signing up for the new-marvel courses and shunned the carefully programmed materials. They forced the extended use of teachers in class. They wanted warmth and contact and even digression, not just "information."

My son and I talked about the difficulty of stocking our automated dispensing kitchen and discovered that making preparations in advance for individual food needs and tastes, as well as for individual daily desires, was an enormously difficult task. It is at least as difficult to determine who among the students needs, or wants, or gets what is specifically available. Diagnosis is always tough. Yet that's what is prelude to distributing useful teaching materials to individual students. Suppose we had lots of programmed materials

on the conventions of writing. Who gets them? If even one teacher believes that self-expression, watever the conventions or lack of them, is more important than separating sentences with periods, the programmed materials on the use of periods is simply taking up storage space.

Then, there is the whole area of learning disabilities. Shey sometimes show up in college reading and writing--but only if a teacher has learned to recognize some of the signs. That's why, for the most part, such disabilities have remained largely undiagnosed---people capable of making such diagnoses haven't been available. Will we be able to develop a technology that not only can spot the variety of student difficulties but can also adapt materials to teach these people?

There is no need to rehearse many of the other reasons we have had difficulty in making use of technology already available, or what we will have in the near future. Faculty fears are only part of the story. There are still many teachers who are reluctant to use a movie projector in class because they're afraid if it doesn't work properly they'd be left with ten or fifteen minutes of class time to fill. (And without lecture notes! Goodness!)

Cost is certainly another factor in the dearth of technological development and application in English departments Even teachers comfortable with technology and capable of developing software required to teach some parts of English courses in new ways know they're dealing with a really big investment. The really <u>big</u> commitment of money has never been made. My figures for 1973 show that a simple

black and white videotape made in a school for instructional purposes might cost anywhere from $25 to $100 an hour. Of course, it's more now. "Sesame Street," as a matter of comparison, costs between $31,200 to $35,400 per hour. A consortium of colleges on the west coast produced a psychology course for $3,300 an hour. But for a really fancy production, their cultural anthropology course, which involved travel outside the country, the cost was $33,000 and hour! It's all big business, especially in these days of tight money when any production source needs to know an investment will be returned before any checks are written.

Finally, a difficulty I consider when thinking about how technology can be used for English teaching is that since much material thus far has been less than useful, there is reluctance to continue with what has not already shown signs of success. Among other problems, we've been working linearly---while most of our students are accustomed to taking in, or learning, non-linearly. Then, we've been occupied with the transmitting process---rather than with the receiving process, which is how people learn.

What are some of the implications of a growing and sophistic technology for English teachers? For one, possibilities for home study to both bring in students who would not otherwise have a chance to take courses / and to accommodate those who could not fit into classroo space. Obviously, home study is going to have serious impact on our courses, especially those that seek to teach writing.

One thing that concerns me, as it does many other people, is the sameness, the homogeneity, the possible lack of flexibility that might result from extended use of technology. (Does one machine turn off another when the lecture is finished?) Will technological teaching reach the bland mediocrity of commercial television that assumes everybody is a sort of Jane or Joe Average, and program content becomes stultifying rather than provocative? It could happen.

But most of all I am concerned---as I'm sure all of you are---- that humanistic uses of communications technology be used to make English teaching better and help students learn. I think we can do that by watching developments, keeping up with what machines are available, making sure in whatever ways we can that administrations don't saddle us with what they want (because of cost accounting) that we can't really use or are allowed to use properly.

Jerzy Kosinski told about how some experiments he conducted showed the depersonalization, the callousness of children as a result of watching TV too much. In one of them he invited a group of 7 to 10-year olds into a room containing two video monitors. Then, by arrangement, a stranger rushed into the room, interrupted Kosinski's lesson, and began arguing, pushing, and hitting him. The children ignored the actual event, concentrating instead on the television sets rather than on the real event at the front of the room. They said later that they could see details better on the monitors without being frightened by "the real thing" or, incidentally, by becoming involved. Scary! And if youngsters can be so passive about something exciting---how about something dull like English? If they're like this at seven, what are they like by seventeen?

If it should ever come to pass that we become accustomed to teaching from a TV studio, if students write for a computer console (which evaluates the work), if satellite problems run the class schedule or 525 lines on a TV screen are mistaken for reality---then I know technology will have gone too far. After all, it is <u>still</u> English and education that are important. And there are things about writing and interaction and real, live people doing unprogrammed things that is what English teaching is all about.

Meanwhile, as soon as my son builds it, you're all invited to visit my automated, push-button, computerized food service center. We will serve you, however, in the more relaxed and personalized atmosphere that is the dining room!

# # #